Catalogue of American Amphibians and Reptiles.

Jockusch, E.L. 2001. *Batrachoseps campi.*

Batrachoseps campi Marlow, Brode, and Wake
Inyo Mountains Slender Salamander

Batrachoseps campi Marlow, Brode, and Wake 1979:3. Type locality, "Long John Canyon, W slope of the Inyo Mountains, elevation 1695 m (5560 ft), 3.2 km (2 mi) (airline) N, 5.3 km (3.3 mi) E Lone Pine, Inyo County, California, USA." Holotype, Museum of Vertebrate Zoology, University of California, Berkeley (MVZ) 122993, collected by J.M. Brode and R.W. Marlow, 26 September 1973 (not examined by author).

• **CONTENT.** No subspecies are recognized.

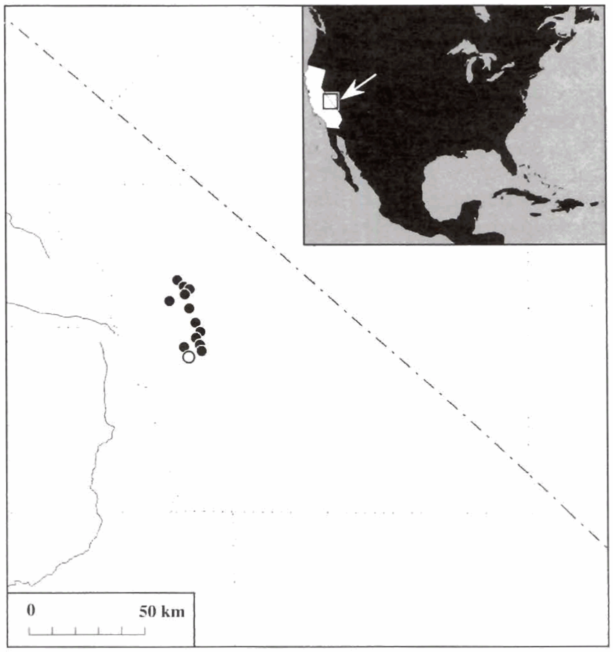
• **DEFINITION.** *Batrachoseps campi* is one of the largest species in the genus, with maximum reported SVL > 60 mm. It has a relatively generalized morphology characterized by a broad head (SVL is 6.3–7.5 times head width), relatively long limbs (2–5 costal grooves between adpressed limbs; SVL 4.2–5.3 times hind limb length in the type series), a short, tapered tail, 16–18 costal grooves between the limb insertions, and large feet with an elongated third digit on both manus and pes. Teeth are relatively numerous on the premaxilla, maxilla, and vomer, where they are borne in a single row. Osteology is typical of the subgenus *Plethopsis*, and the skull bones are relatively robust. Individuals in the type series have 17–19 trunk vertebrae, 2–3 caudosacral vertebrae, and 22–34 post-sacral (including caudosacral) vertebrae, with higher numbers of tail vertebrae in larger individuals. The haploid chromosome number is 13, a trait shared with all other species of *Batrachoseps* and the supergenus *Bolitoglossa*.

The ground color generally is a dark brown. The iridophores, which may appear silvery or green, vary in distribution, and may cover as little as the eyelids and head or as much as the entire dorsal surface. The ventral surface is relatively plain.

• **DIAGNOSIS.** *Batrachoseps campi* is distinguished from members of other plethodontid genera by the presence of only four toes on the hind feet (this also occurs in *Eurycea quadridigitata* and *Hemidactylium scutatum*), by a projectile tongue attached to the jaw by an extremely elongated genioglossus muscle, and by the presence of a large frontal-parietal fontanelle. This species is distinguished from all other species of *Batrachoseps*, except *B. wrighti* and an undescribed species from the Kern Plateau region of southern California, by the presence of a divided premaxillary bone in large juveniles and adults and by the presence of a prefrontal bone. The absence of a dorsal stripe at all stages distinguishes *B. campi* from all other species of *Batrachoseps* except *B. gabrieli*. It is also distinguished from most other species of *Batrachoseps* by its large size and relatively robust morphology, including a broad head, short tail (shorter than SVL even in large individuals), and large feet.

• **DESCRIPTIONS.** Marlow et al. (1979) described adults, osteology, and karyotype. Color pattern variation was described by Yanev and Wake (1981).

• **ILLUSTRATIONS.** A black and white photograph of a paratype was included by Marlow et al. (1979), who also included line drawings of dorsal and ventral skull views and of a hind foot. Black and white photographs of three specimens showing color pattern variation and including a juvenile were presented by Yanev and Wake (1981). Black and white and color photographs are in Petranka (1998). Color photographs are in Macey and Papenfuss (1991). Stebbins (1985) provided a color painting. Photographs of chromosomes are in Marlow et al. (1979) and Sessions and Kezer (1991).



MAP. Distribution of *Batrachoseps campi*; the circle indicates the type locality, dots mark other records.

• **DISTRIBUTION.** *Batrachoseps campi* is restricted to the Inyo Mountains of Inyo County, California, where it occurs on both the east and west slopes, and has been collected over a wide elevational range (550–2450 m). The northernmost locality, Waucoba Canyon, Inyo Co., and the southernmost locality, Long John Canyon, Inyo Co., are separated by about 40 km. Although the region is extremely dry, most animals have been found active on the surface in canyons with permanent water sources. A few individuals have also been collected in areas without surface moisture by using pitfall traps, indicating that *B. campi* may be more broadly distributed below the surface.

• **FOSSIL RECORD.** None.

FIGURE. *Batrachoseps campi* from Barrel Springs, Inyo Mountains, Inyo County, California (photograph by Mario García-París).

• **PERTINENT LITERATURE.** References are listed by topic: **allozyme variation** (Yanev and Wake 1981), **biogeography** (Hendrickson 1986, Yanev 1980), **chromosomes** (Marlow et al. 1979, Sessions and Kezer 1991), **coloration** (Marlow et al. 1979, Yanev and Wake 1981), **distribution** (Macey and Papenfuss 1991, Marlow et al. 1979, Yanev and Wake 1981), **erythrocytes** (Villolobos et al. 1988), **gene flow** (Larson et al. 1984), **genome size** (Sessions and Kezer 1991), **habitat** (Marlow et al. 1979, Yanev and Wake 1981), **heterochrony** (Wake 1989), **hyobranchial apparatus** (Marlow et al. 1979), **morphological comparisons with other species** (Marlow et al. 1979, Wake 1989), **osteology** (Marlow et al. 1979), **systematics and taxonomy** (Jackman et al. 1997, Marlow et al. 1979, Wake 1993, Yanev 1980, as *B*. sp. nov.).

• **ETYMOLOGY.** The name *campi* honors the herpetologist Charles Camp.

• **COMMENTS.** *Batrachoseps campi* is listed as a species of special concern by the California Department of Fish and Game and as a sensitive species by the United States Bureau of Land Management.

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ELIZABETH L. JOCKUSCH, Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT 06269 (jockusch@sp.uconn.edu).

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